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AUTHOR Barwick, Joseph T.
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ABSTRACT

An important task for literature teachers is to develop students' capacity for abstract thinking so that it can be employed on problems at will and by choice. The first process of abstract thinking is one which enables a person to see a connection between A and B, including processes of cause/effect, making analogies, or making comparisons. Another type of abstract thinking is that which enables a person to see a relationship between A and B that yields C, which uses inductive and deductive reasoning, and produces inferences and conclusions. The third and final type of abstract thinking is the process that enables a person to understand A so that what is learned can be applied elsewhere, enabling a person to generalize. The study of literature is particularly well-suited to teach this cognitive skill, because the purpose of literature is to transcend the narrow boundaries of the story and find some essential meaning for all of humanity. Teachers need to break down the concept of cognition into its component parts, in order to develop more effective strategies for teaching abstract thinking. (MM)

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LITERATURE AND STUDENT COGNITION

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JOSEPH T. BARWICK

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Currently, the English Department at my college is going through a light-hearted experiment in which about half the members are taking courses from the other half. At our last department meeting, I asked whether anyone was learning anything, and one member said, "Yes, I have learned that we should ban yellow highliters. They should not be permitted in school at all." We all immediately asked why she would want to ban what most of us regard as a valuable educational aid, and she said, "Because Stephanie (the teacher) points out a passage in the story, then askes some really good questions. I mean really good stuff. But the students don't hear them because the have their noses down highlighting the passage." Students are much more comfortable highlighting than thinking, it seems.

However, Michael Cole and Sylvia Scribner explained why American children often performed better on cognitive tasks than adults from non-western cultures:

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> Among institutions having the greatest impact on cognitive growth is the western type school, which structures learning experiences in a unique way. In school learning is separated from everyday practical activities, language is used out of context for special analytic purposes, and the new tool of written language is made available for cognitive operations. School learning thus demands, and fosters, abstract modes of thought. (1974, p. 24)

Think back for a moment at the content of the general verbal section of the GRE. Reading passages did not, for example, test readers on content, but asked instead what could be inferred from the information. The analogies asked the reader to see a similarity between words, not merely define the words, and then to generalize that similarity to another pair of words. In other words, this standard test of the effectiveness of our undergraduate education is actually testing a person's ability to, on the spot, combine bits of information in such a way as to create new knowledge. A corollary to this is the ability to learn when what is to be learned is not physically present, which is the essential difference between learning in school and learning in the field by watching and doing.

A. R. Luria was one of the first to point out the difficulties some adults had in learning when the learning did not at least reflect what the learner had personally experienced. Working with illiterate Russian peasants, Luria posed them various syllogisms. The peasants were successful only when the propositions of the syllogism contained information they knew from experience to be true.

Luria theorized that three factors worked to inhibit what he called verbal-logical thinking:

1) A mistrust of an initial premise that does not reproduce personal experience;

2) Unacceptability of premises as universal;

3) The syllogism is seen as a series of isolated and independent propositions. (1976, pp. 114-5)

There has been much debate over the validity of Luria's rather informal experiments. But whether these peasants could not use verbal-logical reasoning, or whether they simply were unwilling to do it for Luria, they still resemble our students. Freshman and sophomore students particularly seem hesitant to venture beyond their own experience in interpretation of literature.

For example, in John Updike's story, "A & P," nineteen year old Sammy works as a check-out clerk in a grocery store, when "in walks these three girls wearing nothing but bathing suits." Sammy joins the others in the store in ogling the girls until they arrive at his register to check out, and the manager abruptly reprimands them for their attire. In outrage at the manager's embarassing the girls, Sammy quits.

In 1973, when students were still reeling from the 60's, my class applauded Sammy's actions. They were not sure of the underlying causes of his actions, but they were sure that whoever stood up to authority, they supported. In 1988,

however, they are quite sure that anyone who impulsively walks off a job deserves everything bad he gets.

The fact that the earlier audience can better "relate" to Updike is only because the story, "A & P," more closely reflected their experience, or at least their experience as they saw it.

Now let's go for a moment back to the roots of thinking. Thinking is a developmental phenomenon, and perhaps the best diagnostician of the process is Piaget. Piaget showed us that young children, around age five, will group objects together according to physical attributes. That is, they will match things according to things like color, size, or shape. Around age 8, though, they seem to shift, and will group things according to function; that is, by what you can do with the things. In other words, very young children will put objects like a fork and a pencil together because they are both long objects. An older child will put a fork with a glass because they are likely to be used together. An older child, an adolescent, according to Piaget, will be able to group abstractly and is able to put a fork with, say, a hammer, because they are both tools. That is, an older child is able to use <u>class names</u> to group objects.

I asked my class recently to compare two characters in two different short stories. One was "A & P" and the other was

"The Man Who Was almost a Man" by Richard Wright. The question was simply, "How are Sammy and Dave alike?" One student said,

> Sammy is not the nice guy he projects to other people. He appears to be nice and easy going to others but he is thinking he doesn't like these people. Dave feels like a man, but projects a little boy image to others.

This student sees a similarity but is unable to express the class name that would put his understanding at the abstract level. If he could just say that "both characters are different from the way they are perceived by others," he would have, essentially, created new knowledge. In fact, he would have created what we would call a thesis, which is, by definition, a new idea based on an individual interpretation of information.

But look again at what Luria uncovered. Luria was able to sit down, in the Russian equivalent of a bar, with illiterates, with men who could read and cipher a little, and with some who had been away to formal technical schools. In order to see how they thought, he asked them a simple question: "Tell me about your comrades (or a relative). What are they (or he or she) like?" (The following represents my own version of Luria's method and results. See pages 144 - 160.)

The answers were revealing.

The illiterate peasants would give answers like, "My sister is still young. She can't speak well.)

The peasants who could do a little reading and ciphering would say something like, "One fellow grew up with me. He gave me fifty rubles when I was sick, so I think he is a good fellow."

It was only the peasants who had been away to formal schooling who could imply causation. "Well, take Sattarov. If he gets reassigned because his work is not good, he won't admit what he's done and behaves like an innocent. He has a great deal of pride. He's something of a coward."

Luria's illiterate peasants, although adults, were very similar to Piaget's first developmental level of cognition -- they responded to the question in very concrete terms. The second group went a little further and responded in terms of the person's observable behavior and the reactions to that behavior, not unlike what Piaget referred to as concrete-operational.

Only the group that had been away to school could respond to Luria's question abstractly, or as Piaget would say, with formal operations.

To translate that into our classroom discussions, responses to the question, "How are Sammy and Dave alike" could be grouped as follows.

Concrete: Sammy and Dave are both teenage boys. Both work and are enfluenced by their parents.

Concrete-operational: Neither one can get along with the adult world. Both seem to have trouble accepting authority.

Abstract: Both characters seem determined to assert their individuality in a world that wants them to conform.

Therefore, by combining Piaget and Luria, we see a clear developmental model of thinking. A hierarchy of cognition. We know that all three levels occur simultaneously in our classrooms -- and in individual students -- at any given moment. But our task is to develop their capacity for abstract thinking so it can be employed to problems at will and by choice.

The first step in developing abstract thinking is to define it in as descriptive terms as possible.

Blumenthal points out that human cognition is both the content of human knowledge and the mental processes that enable the learning and use of that knowledge. (1977, p.7)

I want to focus on the processes.

The first process of abstract thinking is one which enables a person to see a connection between A and B. This includes processes of cause -- effect, making analogies, or making comparisons.

In the study of literature, it is very difficult for students to pinpoint causes. Consider the following statement from a student writing about Arna Bontemps' "A Summer Tragedy," in which an old, share-cropping couple opt for suicide rather than the powerlessness of old age.

> Jeff and Jenny Patton commit suicide because they are very old and have nothing else to live for.

First of all, this student has incorrectly identified the cause. But the significance of this limitation is that this point of view diminished the student's appreciation of the story. He saw the old couple as weak and was, therefore, willing to dismiss them from his mind.

But not only is it difficult for students to discern causes, it is equally hard for them to write effectively about them. For example, the student quoted above developed his essay by showing example after example of the couple's agedness. Developmentally, then, the student was functioning on the second level of the Piaget and Luria stages.

Another abstract connection between A and B enables people to discover analogies.

Again working with "A Summer Tragedy," I asked the students to write down what Bontemps meant when he described Jenny as having a "wasted, dead-leaf appearance."

One student said,

> "Arna Bontemps referred to Jenny as having a 'wasted, dead-leaf appearance' because her body was scrawny like a dead leaf, and her clothes were faded like the colors of a dead leaf."

This response is fairly clever, and we as teachers are often glad to get something like this rather than the blank stares we usually get. However, another student wrote,

> "Arna Bontemps says Jenny has a 'wasted, dead-leaf appearance' because she looks as though she has been drained of the juices of life."

Another student interpreted the image symbolically:

> "A dead leaf is cut off from its source of life just as Jenny has been cut off from her source of life, her five dead children."

This student, by the way, is a middle-aged mother. These two students obviously see a deeper meaning in the image.

Another abstract connection between A and B is one that enables a person to see underlying, or abstract, similarities or differences. This enables comparisons on deeper levels than physical or concrete attributes.

A second type of abstract thinking, though, is those processes that enable a person to see a relationship between A and B that yields C.

Certainly Luria's syllogisms fall into this group. Remember that one of Luria's theories was that the peasants without formal schooling saw the parts of the syllogism as a series of isolated and independent propositions. To test this, I used Richard Wright's "The Man Who Was almost a Man." In this story, a seventeen-year old black boy wants so desperately to be a man that he connives to get a gun to force others to respect him. At the end of the story he hops a train with the now-empty gun, and heads off "somewhere where he can be a man." I asked the class to tell me everything they could remember about Dave and the gun. They were able to tell me

1) Dave lied and manipulated to get the gun.
2) Dave feels like a man when he has the gun.
3) Dave practices bullying people with the gun.
4) Dave accidentally shoots a mule and doesn't take responsibility for it.
5) Dave wishes he had one more bullet to shoot at Mr. Hawkins' house to prove to Hawkins he is a man.

After this, we spent another twenty minutes generally discussing the story. Later in the same period, I asked them to write down the epilogue to the story, to tell me what became of Dave. Even with the five statements still on the board, many of the students guessed that Dave would, in

fact, learn to take care of himself and would become a man. Most of the students, however, said that Dave would get into trouble with the gun. But when I asked them why, many of them expressed reasons such as, "I don't know, I just think he is going to get into trouble." Or, "He doesn't know how to handle a gun, so he will probably get into trouble like he did shooting the mule." The five sentences they helped put on the board were, for many of the students, simply independent pieces of information.

This process is also the one used in inductive and deductive reasoning, and produces inferences and conclusions. Students constantly make inferences in their personal lives, but they are rarely asked to do it formally and analytically. They can tell, for example, when a friend is bothered by something, but they can't quite put their fingers on the clues that produced that feeling. In the study of literature, since we almost never read along with our students, we generally work from the inference back to the information that supports it. In other words, we will ask students why they felt a certain way about a character, and hope that they can trace back to specific examples in the story that support their feelings. This is the analytical process.

Some stories, in fact, seem written especially for this type of exercise. For example, in Faulkner's "A Rose for Emily," when the towns people break down the door and find the "iron gray hair" in the indention of the pillow beside the rotted corpse, every student immediately knows that Emily has slept beside the decaying body of her lover, Homer Baron, every night for years. Before discussing the more important elements of the story, it is always interesting to send the students back through the story to find Faulkner's clues that Emily murdered Homer but kept his body in her bed. A story like Ambrose Bierce's "An Occurrance at Owl Creek Bridge" offers the same challenge. The students follow Payton Farquhar's escape right up to the moment he reaches out to embrace his wife, and suddenly his neck is snapped, and the students realize immediately that the whole escape has happened only in his mind in the second it took for him to drop to the end of the hangman's rope. Again, the game is to go back into the story and identify Bierce's words that should have given the ending of the story away.

The third and final type of abstract thinking is the process that enables a person to understand A so that what is learned can be applied elsewhere. This, of course, is the process that enables a person to generalize. In fact, one of the most common definitions of abstract thinking is "the ability to identify principles or concepts in specific

experiences that can be generalized to other experiences." (Meyers, p. 27) The study of literature is particulary well-suited to teach this cognitive skill, because the purpose of literature, we hope, is to transcend the narrow boundaries of the story and find some essential meaning for all of humanity. But, of course, many students don't get it.

The following two statements were written by the one student in a single essay. They occurred about a page apart.

> In "Story of an Hour," Mrs. Mallard seems to be a victim of her times trapped in an unhappy marriage, until her husband dies. I think Mrs. Mallard's situation was common of many women in 1894 when women did not have the freedom they now enjoy.

Then later:

> The year is significant because a black, uneducated teenager from a poor black family in the south did not have much of an opportunity to ever be considered a man by anyone other than fellow blacks.

This student wrote the entire essay without noticing that these two characters had something very meaningful in common. Probably when she came up with the idea about Mrs. Mallard, it planted the seed about the social context of the story. Then as she discussed this other character, it naturally occurred again. However, the interesting thing is that both ideas were hers, both came up in a single essay,

done in a single sitting, and she missed the generalization. In fact, it was only when I discussed her essay with her afterward, and asked repeated questions like, "Who else does this remind you of?" that the flash of insight finally happened.

Developing abstract thinking, then, is by no means a simple task. However, to compound the problem, students who enter college naturally resist our attempts to guide them toward these processes.

William Perry has been studying the attitudes and behaviors of Harvard undergraduates for years and has developed a very descriptive model of four stages of what he calls intellectual development.

In the first stage, usually as they enter college, students are <u>dualistic</u>. That is, they believe that there are right answers and wrong answers. There purpose in college, therefore, is to receive and learn the right answers, and the purpose of the teacher and the course is to give it to them. Again we see the reason for the yellow highliters. Any effort they are required to put forth in search of these answers is a waste of their time, and not at all part of why they came to college. This developmental stage seems to apply to all freshman regardless of age, because it is tied up in the freshman's concept of college and his or her

personal reasons for being there. Attempts to shake the student out of this attitude will be met, not simply with the student's (and the professor's) frustration, but with open hostility. Look at a quote from one of Perry's students in the dualistic stage:

> I'll tell you the best thing about science courses: their lectures are all right. They sort of say the facts. But when you get to a humanities course, especially -- oh, they're awful -- the lecturer is just reading things into the book that were never meant to be there. (Perry, 1981, p. 82)

Teachers of humanities can take some comfort in the fact that Perry's students who were in science courses where the scientific process was stressed rather than the content felt about those courses as this student felt about humanities.

Perry's second developmental stage is <u>multiplistic.</u> Upon realizing that there is often not one right answer, students jump to the conclusion that there are a lot of right answers and none is more right than the others. This attitude leads to opinions such as the following one, a response to the story, "A & P."

> Sammy did not like Lengel being his boss, Lengel was a friend of Sammy's family. Sammy did not like that very much. I think the reason he did not like it was because Lengel could tell his parents all the wrong things he did at work, so, the girls in the bathing suits was a way for Sammy to get out of his job.

No matter what information I pull from the story to prove an alternative motive, and no matter that this student could find no information to support his own opinion, he will remain convinced that his answer is as right as any other. At this stage in his development, he will view a low grade on his essay as a reflection on me rather than on his efforts. In other words, "If you don't agree with your professor, he'll flunk you."

If we persist in our efforts, however, students will eventually catch on. Unfortunately, it is usually after they leave our classes and move on to someone else's.

Perry's third stage is relativistic. In this stage, students are able to accept that some answers are, in fact, better than others, even though there may not be a single right answer. It is only in this stage that students will become eager to embrace the process, recognizing that the strength of an answer lies more in how it was derived than in what it is.

From here, students go on to the final stage of development, commitment, and at this point, the most fundamental part of their education in western-type schools is complete.

It is important for us -- abstract thinkers that we are -- to break the nebulous concept of congnition into its component parts. Understanding it in terms of its parts

enables us to develop more effective strategies for guiding our students through all the pitfalls to become what our western, highly complex society requires them to be. It will not, however, make the results easier to accomplish, nor less frustrating to pursue. Afterall, students will continue to be students. And they will continue to challenge our attempts to change they way they think.

In 1978, William Schaefer, the retiring director of the Modern Language Association said, "The basic problem is the failure of the humanistic disciplines to relate to the society that supports them, a failure to explain and to justify the humanities and to prove their value to society." Perhaps that is because the society we must convince still remembers us as they thought we were when they were dualistic or multiplistic and struggling along with concrete-operations. And if this is true, perhaps we could be more convincing by pointing out that college has made them better, not because of what they know, but because of the ways they have come to know.

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